REMARKS

Allowable Subject Matter

Applicants are pleased to note that claim 30 has been considered to be allowable (see item no. 13 at the bottom of page 4 of the enclosed Office Action).

Presently Claimed Invention

The presently claimed invention concerns a film-laminated metal sheet for a container comprising resin films, the resin films each containing a polyester as a main component, on both surfaces of a metal sheet, wherein

a polarity force component γs^h of a surface-free energy of a surface of the resin film positioned on an inner surface side of the container after formation of the container and that is to be in contact with a content of the container is 4×10^{-3} N/m or less,

a region, where a birefringence of the resin film positioned on the inner surface side of the container after formation of the

container is 0.02 or less, is less than 5 μm from a contact interface with the metal sheet in the thickness direction, wherein the birefringence is determined by measuring retardation in a cross-sectional direction of the film after removal of the metal sheet from the film-laminated metal sheet (see applicants' claim 1).

The presently claimed invention is also directed to a film-laminated metal sheet for a container comprising resin films, the resin films each containing a polyester as a main component on both surfaces of a metal sheet, wherein

a resin film positioned on an inner surface side of the container after formation of the container comprises at least two layers, a resin film positioned on an outer surface side of the container after formation of the container comprises at least one layer; and a polarity force component γs^h of a surface free energy of a surface where an uppermost-layer resin film, which is one of the at least two resin layers and which is positioned on the outer surface side of the container, is to be in contact with a content of the container is 4×10^{-3} N/m or less,

a region, where a birefringence of the resin film positioned on the inner surface side of the container after formation of the container is 0.02 or less, is less than 5 μm from a contact

interface and the metal sheet in the thickness direction (see applicants' claim 15).

Prior Art Rejections

Claims 1 to 7 and 15 to 25 were rejected under 35 USC 103 as being unpatentable over Kuze et al. (JP 7-109363) in view of Markfort et al. (USP 5,451,304) (see Item Nos. 6 and 15 on page 3 of the August 24, 2005 Office Action).

It was admitted in Item No. 18 on page 6 of the Office Action of April 13, 2004 that the above combination of references does not explicitly teach the requirement in claim 1 that the polarity force component γs^h be 4×10^{-3} N/m or less.

It was also admitted in Item No. 21 on page 7 of the Office Action of April 13, 2004 that with respect to applicants' claim 6, Kuze et al. as modified by Markfort et al. do not explicitly teach the amount of wax in the polyester resin film on the inner surface of the container is 0.8 to 2 mass %.

Claims 8 and 11 were rejected under 35 USC 103 as being unpatentable over Kuze et al. as modified by Markfort et al. and further in view of Iwasa et al. (JP 2000-158585) (see Item No. 7 on page 3 of the August 24, 2005 Office Action).

It was admitted in Item No. 27 on page 8 of the Office Action of April 13, 2004 that Kuze et al., as modified by Markfort et al., do not teach the features of claim 8, i.e., the polyester film having a benzene carbon relaxation time of 150 msec or longer.

It was also admitted in the Office Action of April 13, 2004 that Kuze et al., as modified by Markfort et al., do not teach the features of applicants' claim 11 to comprise 95 mol% or more of ethylene terephthalate units.

Claims 9, 10, 12 and 13 were rejected under 35 USC 103 as being unpatentable over Kuze et al. as modified by Markfort et al. and further in view of Iwasa et al. (see Item Nos. 8 to 11 on pages 3 and 4 of the August 24, 2005 Office Action).

It was admitted in Item No. 36 at the top of page 10 of the Office Action of April 13, 2004 that Kuze et al., as modified by Markfort et al., do not teach the features of applicants' claim 9, which recites that the resin film is a biaxially oriented polyester film having a melting point of 240°C to 300°C, wherein the content of a terminal carboxyl group is 10 to 50

equivalent/ton, and an isophthalic acid component is not substantially contained as an acid component.

It was admitted in Item No. 42 at the top of page 11 of the Office Action of April 13, 2004 that Kuze et al., as modified by Markfort et al., do not each the features of applicants' claim 10, namely that the resin film is a biaxially oriented polyester film having an amorphous Young's modular of 120 to 220 kg/m^2.

It was admitted in Item No. 48 bridging pages 11 and 12 of the Office Action of April 13, 2004 that Kuze et al., as modified by Markfort et al., do not tech the features of applicants' claim 12, namely wherein the resin film is a biaxially oriented film having 93 mol% or more ethylene terephthalate units and having a crystal size χ in a (100) plane obtained through an X-ray diffraction measurement of 0.6 nm or smaller.

It was admitted in Item No. 54 bridging pages 12 and 13 of the Office Action of April 13, 2004 that Kuze et al. as modified by Markfort et al. do not teach the features of applicants' claim 13, namely a resin film which is a biaxially oriented film having 93 mol% or more ethylene terephthalate units and having a crystal

orientation parameter R obtained through an X-ray diffraction measurement of 20 x 10^{-2} or more.

Claims 26 and 27 were rejected under 35 USC 103 as being unpatentable over Kuze et al. as modified by Markfort et al. and further in view of Tanaka (USP 6,217,994) (see Item No. 12 on page 4 of the August 24, 2005 Office Action).

It was admitted in Item No. 66 at the top of page 15 of the Office Action of April 13, 2004 that Kuze et al. as modified by Markfort et al. do not teach the features of applicants' claims 26 and 27, wherein the resin film on the inner surface of the container contains an aromatic diamine base organic pigment (claim 26) or a benzimidazolone pigment (claim 27).

The present specification on page 20, line 21 to page 21, line 7 discloses that an olefin resin content of lower than 5.0% (see applicants' claims 3 and 17 which recite that the olefin resin is in a mass ratio of 5 to 20%) prevents the polarity force component γs^h of the film surface free energy from decreasing to 4.0 x 10^{-3} N/m or less, leading to deterioration in the content substance releasability. Moreover, the content of the olefin resin is preferably 10.0% or higher (see applicants' claims 5 and

19) to reduce the polarity force component γs^h of the surface free energy to a level of 2.0×10^{-3} N/m or less.

In contrast to the presently claimed invention, Kuze et al. teach that an improvement in sliding property is saturated when the immiscible thermoplastic resin content exceeds a mass ratio of 5%. Therefore, Kuze et al. consider that an immiscible thermoplastic resin mass ratio of 5% or less is preferable. Moreover, the Examples in Kuze et al. disclose only an immiscible thermoplastic resin mass ratio of 5% or less.

Further, Kuze et al. do not teach or suggest a polarity force component of a film surface free energy of 4.0×10^{-3} N/m or less, as recited in applicants' claims.

Kuze et al., do not disclose a wax component (see applicants' claims 4, 6, 7, 18, 20 and 21).

The present specification on page 22, line 6 to page 23, line 2 disclose that the polarity force component γs^h is reduced to 4×10^{-3} N/m or less by adding 0.10 to 2.0% in a ratio by mass of a wax component with respect to the resin film.

Therefore, it is respectfully submitted that Kuze et al. is substantially different from the presently claimed invention.

Markfort et al. relate to a process for the electrophoretic internal coating of metal. Markfort et al. disclose an aqueous electrophoretic coating composition containing a polyester resin and a wax. However, the aqueous electrophoretic coating composition includes a larger amount, namely 20 to 80 wt.% of an epoxy resin, and 1 to 60 wt.% of a polyester resin. Accordingly, the polyester resin in Markfort et al. cannot necessarily be regarded as a main component. In contrast to Markfort et al., the resin film of the present invention contains a polyester as a main component.

The polyester resin used in Markfort et al. is a thermosetting resin, which is different in terms of chemical structure from the presently claimed invention which uses a thermoplastic polyester resin.

Markfort et al. do not teach or suggest a polarity force component of a film surface free energy of 4.0×10^{-3} N/m or less.

In Markfort et al., because an epoxy resin having a polar group constitutes a main component, a polarity force of a

surface-free energy of a surface of the resin film becomes extremely high, which is substantially different from the presently claimed invention. Therefore, Markfort et al. cannot be expected to provide the desirable results afforded by the presently claimed invention.

Although Markfort et al. disclose carnauba wax as one example of a wax, and that a wax is used in an amount of 0.5 to 3.0% by weight, relative to the solids content of the coating composition, in a process for the electrophoretic internal coating for forming a coating film, a composition of the coating film is determined by a plurality of parameters, including the ionization state and the mobility of the resin component in a coating composition. Accordingly, after the coating film is formed, one of ordinary skill in the art would not be able to determine the coating composition.

Also, an expected effect in Markfort et al. would be the suppression of an inadequate stability of the deposited films during the rinsing step (following the electrophoretic

deposition), which is absolutely dissimilar to the result expected from the presently claimed invention.

Accordingly, the art concerning wax disclosed in Markfort et al. and the art of using wax in the presently claimed invention are completely different.

Kuze et al. relate to a polyester film laminated metal sheet. The lamination film of Kuze et al. is substantially different from the electrophoretic coating of Markfort et al. Therefore, it is respectfully submitted that one of ordinary skill in the art would not consider to combine Kuze et al. and Markfort et al.

It is therefore respectfully submitted that applicants' claimed invention is not rendered obvious over the references, either singly or combined in the manner relied upon in the Office Action in view of the many distinctions discussed hereinabove. It is furthermore submitted that there are no teachings in the references to combine them in the manner relied upon in the Office Action.

Reconsideration is requested. Allowance is solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

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